

Sub D6
C6 1. (Twice amended) An isolated nucleic acid comprising a polynucleotide that hybridizes under highly stringent conditions to a SEQ ID NO:1, base pairs 57583-58854, wherein said polynucleotide encodes a protein that has an oxidase activity.

Sub D7
C7 10. (Twice amended) The nucleic acid of claim 9, wherein the sequence of said protein is SEQ ID NO:115.

Sub D8
C8 12. (Twice amended) The nucleic acid of claim 9, wherein said nucleic acid further comprises a nucleic acid encoding a protein encoded by SEQ ID NO:99.

13. (Twice amended) The nucleic acid of claim 9, wherein said nucleic acid further comprises a nucleic acid encoding a protein selected from the group consisting of SEQ ID NO:113, SEQ ID NO:109, and SEQ ID NO:96.

14. (Twice amended) The nucleic acid of claim 9, wherein said nucleic acid further comprises a nucleic acid encoding a protein selected from the group consisting of SEQ ID NO:107, SEQ ID NO:106, SEQ ID NO:102, SEQ ID NO:101, SEQ ID NO:100, SEQ ID NO:98, and SEQ ID NO:97.

Sub D9
C9 21. (Twice amended) An isolated gene cluster comprising a nucleic acid, which nucleic acid comprises open reading frames encoding polypeptides sufficient to direct the assembly of a bleomycin or a bleomycin analogue, wherein a polypeptide of the polypeptides is SEQ ID NO:115.

Sub D10
C10 40. (Twice amended) An expression vector comprising the nucleic acid of any one of claims 1, 2, 3, 9, 10, 12, 13, 14, and 21.

Sub D11
C11 71. (Amended) A cell comprising a modified bleomycin gene cluster, wherein the modified bleomycin gene cluster comprises a nucleic acid which encodes a protein comprising SEQ ID NO:115, said cell producing elevated amounts of bleomycin as compared to the wild type cell.

Sub D12
C12 73. (Twice amended) The cell of claim 71, wherein said cell overexpresses a resistance gene from the bleomycin gene cluster and wherein said resistance gene is a selected from the group consisting of blmA and blmB.